

REMARKS

Claims 1-3 and 5-23 are pending in the application. Claims 1-3, 5-10 and 19-23 are rejected. Claims 11-18 are allowed.

The specification has been amended to replace the term 'nitrogen' with the term 'amine' in the paragraph at p. 2, lines 9-14.

Claim 1 has been amended for clarity to indicate that the backbone portion of the resin according to the present invention is a hydrocarbon or modified hydrocarbon chain having one or more reactive chemical function groups. Support for this clarifying amendment is found at p. 3, lines 11-13 of the present Specification.

Accordingly, no new matter is introduced with these amendments.

Reply to the Rejection of Claims 9 and 10 under 35 U.S.C. § 112, second paragraph

The Examiner has rejected Claims 9 and 10 as being indefinite. Specifically, the Examiner states –

The reference to the compounds of claims 9 and 10 as groups renders the claims indefinite. Within the chemical arts, a chemical group refers to a substituent that is present on or within a compound. For example, an amine group is a chemical group that is a substituent of an amine compound. Therefore, it is unclear how applicants' chemical groups (compounds) relate to the backbone of claim 1. Do applicants intend that the word, "group", mean the same thing as compound? Applicants' response has not addressed this issue.

For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 9 and 10 under 35 U.S.C. 112, second paragraph.

Claim 1 has been amended for clarity to indicate that the backbone portion of the resin according to the present invention is a hydrocarbon or modified hydrocarbon chain having one or more reactive chemical function groups present thereon. Support for this amendment is found at p. 3, lines 11-13 of the present. Claims 9 and 10 further define and limit those reactive chemical function groups that are a substituent of the hydrophobic backbone. As such, the "reactive chemical groups" are understood to be a substituent that is present on or within a compound (here, the reactive hydrophobic backbone).

Further, regarding the Examiner's comment that "an amine group is a chemical group that is a substituent of an amine compound", an amine group may refer to a chemical group, substituent, or functional group within an amine compound. In the simplest cases of nomenclature this is correct. However, an amino group (or amine group) can be a substituent of a larger compound than just an amine compound. For example, an alkaloid is defined as a "basic nitrogenous organic compound of vegetable origin" (Hawley's Condensed Chemical Dictionary, 11th Ed., Van Nostrand Reinhold, New York (1987)). Many alkaloids contain amine groups as well as other chemical functionalities. Therefore, the classification of the invention as a (poly)dithiocarbamate resin is not intended to exclude the inclusion of free amine groups within the inventive resin, which is supported by the Schemes found within the present description.

It is believed that the above amendments and remarks provide clarity to the meaning of the word 'group' and overcome the rejection of claims 9 and 10 as being indefinite under 35 U.S.C. § 112, second paragraph. Withdrawal of the rejection of claims 9 and 10 for indefiniteness, therefore, is respectfully requested.

Reply to the Rejection of Claims 1-3, 5-10 and 19-23 under 35 U.S.C. § 112, first paragraph

The Examiner has rejected Claims 1-3, 5-10 and 19-23 as failing to comply with the written description requirement. Specifically, the Examiner states –

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Support has not been provided for the amendments to claim 1. Firstly, despite applicants' response, it is not seen that the specification provides support for the "derived from" amendment. Furthermore, it is unclear what is meant by "derived from" in the context of the present invention. It is not seen that the examples clarify the issue, and it is noted that applicants state at page 3 of the specification that examples of the hydrophobic backbone are amines and diols. This disclosure does not appear to correlate to applicants' "derived from" language. Secondly, despite applicants' response, support has not been provided for the amendment stating that the resin contains no tertiary amine groups. Initially, it is noted that applicants have not distinguished a tertiary nitrogen from a tertiary amine, and it is not seen that any difference exists between the two terms. Applicants have stated that support for the amendment can be found within Schemes I and II of the specification; however, Scheme II clearly discloses tertiary amines within the resins. See pages 8 and 9. Therefore, applicants' arguments are not understood. Lastly, in view of this ambiguity associated with

the presence of the tertiary nitrogen groups and the ambiguity with respect to applicants' use of the word, "group" (see paragraph 2 of this Office action), applicants are required to clarify the meaning of the specification at page 2, lines 11-13, wherein it is stated that the polydithiocarbamate resin contains no tertiary nitrogen groups.

For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 1-3, 5-10 and 19-23 under 35 U.S.C. § 112, first paragraph.

Claim 1 has been amended to remove the "derived from" language and state instead that the backbone portion of the resin according to the present invention is a hydrocarbon or modified hydrocarbon chain having one or more reactive chemical function groups. As noted above, support for this amendment is found on p. 3, lines 11-13 of the description

The Specification has been amended by replacing the paragraph at p. 2, lines 9-14 with a new paragraph replacing the "tertiary nitrogen groups" with "tertiary amine groups". One skilled in the art understands that amines are a class of organic compounds of nitrogen that may be considered as derived from ammonia (NH₃) by replacing one or more of the hydrogen atoms with alkyl. The amine is primary, secondary or tertiary, depending on whether one, two or three of the hydrogen atoms are replaced. As nitrogen has no hydrogen atoms to be replaced, there cannot, by definition, be "tertiary nitrogen groups". Accordingly, one skilled in the art would readily recognize that the phrase "tertiary nitrogen groups" should correctly be "tertiary amine groups".

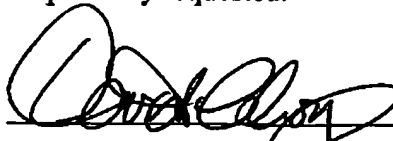
Support for this amendment is found with reference to Scheme I, Examples 1-6, 9 (primary amines only) and 10, which clearly illustrate that the resin produced according to the process of the present invention contains no tertiary amine groups. Further, one skilled in the art considering Scheme I would understand that the resin is without tertiary amine groups. Accordingly, no new matter is introduced by this amendment, and the amendment is fully supported by the written description.

It is believed that the above amendments and remarks overcome the Examiner's rejection of claims 1-3, 5-10 and 19-23 as failing to comply with the enablement requirement. Withdrawal, therefore, of the rejection of claims 1-3, 5-10 and 19-23 under 35 U.S.C. 112, first paragraph for lack of enablement is respectfully requested.

It is believed that the above remarks and amendments overcome the rejections of the claims for indefiniteness, written description compliance and nonenablement. Allowance of the claims is believed to be in order, and such allowance is respectfully requested.

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NATIONAL STARCH AND CHEMICAL COMPANY
Post Office Box 6500
Bridgewater, New Jersey 08807-0500
Phone 908.683.5433
Fax 908.707.3706


David P. LaCroy
Attorney for Applicants
Reg. No. 37,869